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Rawalakot: Training and workshop on DEWS  
Pictured by: Dr. Jafer Ilyas



## Highlights

- The number of bloody diarrhoea cases decreased by 61% from week 27 (W27=628 & W28=390)
- Malaria cases decreased by 24% from week 27 (W27=699 & W28=563)
- Acute watery diarrhoea cases decreased by 2% from week 27 (W27=12,059 & W28=11,841)
- One alert of suspected acute watery diarrhoea was reported from DHQ hospital Bagh.
- 8 suspected cases of Acute Jaundice syndrome reported from district Muzaffarabad

The Weekly Morbidity and Mortality Report (WMMR) is published by the Ministry of Health of Pakistan (MOH) and the World Health Organization (WHO). The WMMR is built on surveillance data that health service providers and NGOs transmit on a weekly basis from health facilities and hospitals in those areas affected by the earthquake that struck Pakistan on 8 October 2005.

The WMMR objectives are to monitor the trend of health conditions over a period of time and provide vital information to all health partners. The WMMR is only a snapshot of the health conditions in those facilities where events are registered and data collected and does not necessarily reflect the situation from other health facilities.

The WMMR is a publication that has been developed for emergencies and previously used in other areas such as the Darfur Crisis.

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WHO Webpage: <http://www.whopak.org/disaster>

## Reporting Units

The number of reporting sites able to report this week was 252; this sudden decrease was due to the closure of Battagram office for more than a week as a result of prevailing security issues. See Table 1 for summary statistics.

Table 1. Reported health facilities by district, Earthquake Affected Areas, Pakistan, 16 June to 13 July 2007.

Area	Population	Reporting Health Facilities			
		16-22 June Week-25	23-29 June Week-26	30 June-6 July Week-27	7-13 July Week-28
Muzaffarabad	894,364	92	74	89	79
Bagh	452,532	41	41	41	40
Poonch	633,712	75	71	69	68
Mansehra / Balakot	1,154,804	72	69	70	65
Battagram / Shangla	592,256	35	41	35	-
<b>Total</b>	<b>3,727,668</b>	<b>315(94%)</b>	<b>296(88%)</b>	<b>304(90%)</b>	<b>252(75%)</b>

## Total number of consultations

In week 28, there was a 15% decrease in the number of reporting sites, and the number of consultations also decreased from 94,271 to 84,929. The highest number of consultations by district was from Muzaffarabad, with 31,738, and the lowest, among those districts able to report, was from Bagh district, at 14,235. The weekly trend of reporting units participating in the DEWS and the number of consultations is shown in figure 1.

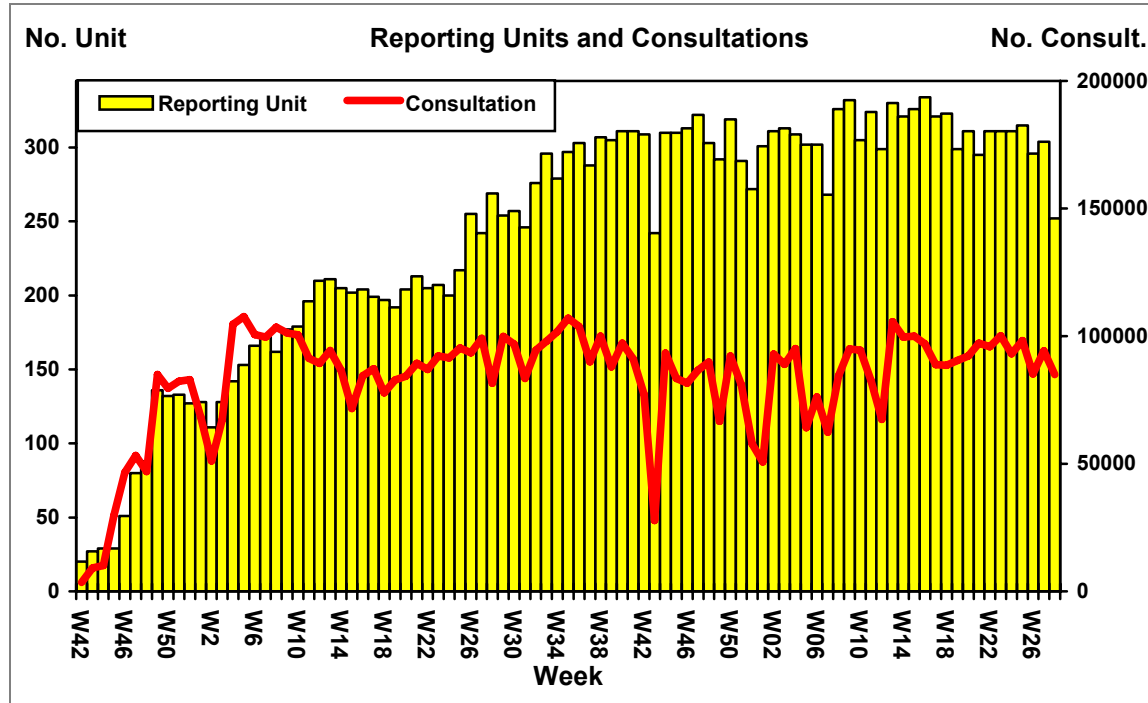


Figure 1. Weekly trend of reporting units and total number of consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 - 13 July 2007.

**DEWS Data, Epidemiological Week No. 28, 2007**

During the last week (7 to 13 July, 2007), **84,929** consultations were reported through DEWS. Acute Respiratory Infections (**ARI**) ranked **19%** (16,165), two percentage points higher than the same week last year. Acute Watery Diarrhoea (**AWD**) made up **14%** (11,841) of consultations, **7%** (5,851) were due to Fever of Unknown Origin (**FUO**) and less than **1%** (295) due to Injuries (**INJ**). The proportion of consultations that were as a result of **AWD** in patients under five years was **3 percentage points** higher in week 28 of 2007 as compared to the same week last year. In patients aged five and above, **AWD** was **12%** of consultations which was less than one percentage point lower than that reported in the same week last year. All other reportable conditions each represented less than **1%** of the total consultations in week 28.

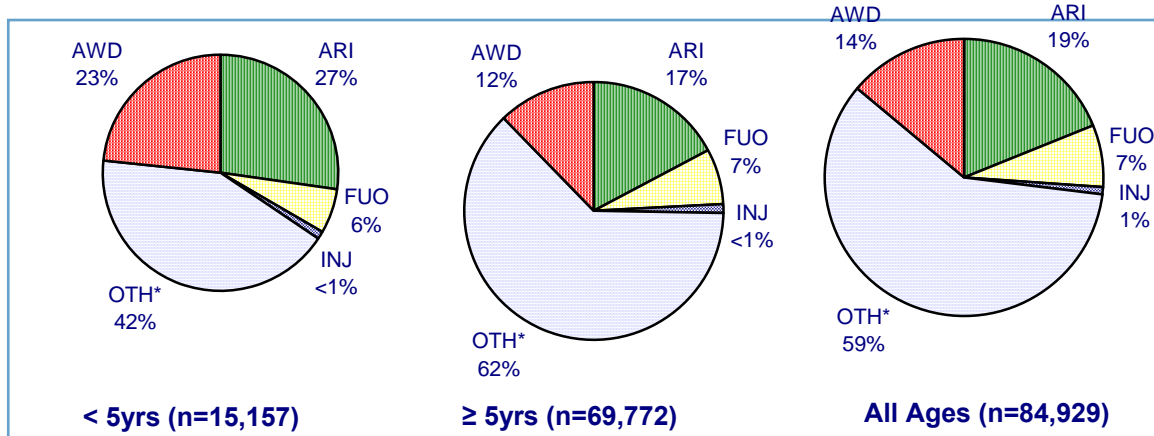


Figure 2. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 7 to 13 July 2007.

\*OTH includes all other reportable conditions, plus all other consultations for conditions not under surveillance

**DEWS Data, Epidemiological Week No. 28, 2007: Consultations by age**

The rate of AWD in patients five years and older was almost the same in last four weeks in 2007 as that in the same weeks in 2006. However, the rate in patients less than five years is 2 to 4 percent higher in 2007 when compared with the same weeks last year. See figure 3.

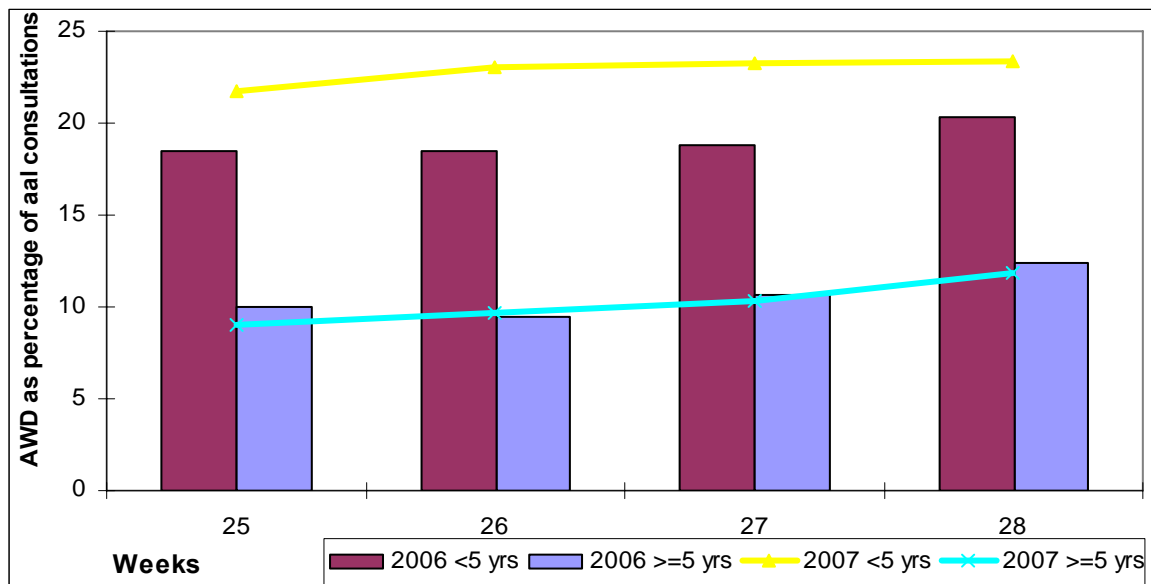


Figure 3: AWD as a percent of all consultations, by age group, Earthquake Affected Areas, Pakistan, 17 June -14 July 2006 to 16 June - 13 July 2007

**DEWS Data, Monthly Summary (Epidemiological Weeks No. 25-28)**

During the period, 16 June to 13 July, 2007 (Epidemiological weeks 25 to 28 inclusive), 145,412 consultations relating to health conditions under surveillance were reported, out of the total of 362,727 consultations. **18%** (66,243) of consultations were due to acute respiratory infection (**ARI**), **13%** (45,516) acute watery diarrhoea (**AWD**), **7%** (25,208) unexplained fever (**FUO**) and **1%** (3,687) Injuries (**INJ**).

Table 2. Comparison of the weekly distribution of reported cases, deaths and monthly Case Fatality Rate (CFR), Earthquake Affected Areas, Pakistan, 16June – 13 July 2007.

Week	WEEK 25		WEEK 26		WEEK 27		WEEK 28		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
<b>AWD</b>	11352	1	10264	3	12059	1	11841	1	<b>45516</b>	<b>6</b>	<b>0.013</b>
<b>BD</b>	613	0	481	0	628	0	390	0	<b>2112</b>	<b>0</b>	<b>0.000</b>
<b>AFP</b>	2	0	0	0	1	0	0	0	<b>3</b>	<b>0</b>	<b>0.000</b>
<b>MAL</b>	654	0	574	0	699	0	563	0	<b>2490</b>	<b>0</b>	<b>0.000</b>
<b>ARI</b>	17776	4	15854	5	16448	1	16165	2	<b>66243</b>	<b>12</b>	<b>0.018</b>
<b>MES</b>	8	0	2	0	17	0	8	0	<b>35</b>	<b>0</b>	<b>0.000</b>
<b>MEN</b>	5	0	1	0	1	0	1	1	<b>8</b>	<b>1</b>	<b>12.500</b>
<b>JAU</b>	23	0	38	0	26	0	23	0	<b>110</b>	<b>0</b>	<b>0.781</b>
<b>TET</b>	0	0	0	0	0	0	0	0	<b>0</b>	<b>0</b>	<b>0.000</b>
<b>AHF</b>	0	0	0	0	0	0	0	0	<b>0</b>	<b>0</b>	<b>0.000</b>
<b>FUO</b>	6630	0	6113	0	6614	0	5851	0	<b>25208</b>	<b>0</b>	<b>0.000</b>
<b>INJ</b>	1642	0	621	0	1129	0	295	1	<b>3687</b>	<b>1</b>	<b>0.027</b>
<b>OTH</b>	59575	15	51299	12	56649	15	49792	10	<b>217315</b>	<b>52</b>	<b>0.024</b>
<b>TOTAL</b>	<b>98280</b>	<b>20</b>	<b>85247</b>	<b>20</b>	<b>94271</b>	<b>17</b>	<b>84929</b>	<b>15</b>	<b>362727</b>	<b>72</b>	
<b>RU</b>	<b>315</b>		<b>296</b>		<b>304</b>		<b>252</b>				

C – Cases, D – Deaths, AWD - Acute Diarrhoea, BD - Bloody Diarrhoea, AFP - Acute Flaccid Paralysis, MAL – Malaria, ARI - Acute Respiratory Infection, MES – Measles, Men - Meningitis, JAU - Acute Jaundice Syndrome, TET - Neonatal Tetanus, AHF Acute Hemorrhagic Fever, FUO –Unexplained fever, INJ – Injuries, OTH – Others, RU – Reporting Units. Please note data from late reporting in previous weeks has been updated.

During the same reporting period, **67,687** consultations were reported in children less than 5 years of age, (19% of the total consultations), of which **ARI** was **27%** (18,515), **AWD 23%** (15,414), **FUO 6%** (4,138) and **INJ** was **1%** (589).

Table 3. Total number of reported cases, deaths and monthly Case Fatality Rate (CFR), less than 5 years old, Earthquake Affected Areas, Pakistan 16June – 13July 2007.

Week	WEEK 25		WEEK 26		WEEK 27		WEEK 28		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
<b>AWD</b>	4199	1	3542	2	4129	1	3544	1	<b>15414</b>	<b>5</b>	<b>0.032</b>
<b>BD</b>	185	0	124	0	188	0	114	0	<b>611</b>	<b>0</b>	<b>0.000</b>
<b>AFP</b>	2	0	0	0	1	0	0	0	<b>3</b>	<b>0</b>	<b>0.000</b>
<b>MAL</b>	126	0	104	0	120	0	81	0	<b>431</b>	<b>0</b>	<b>0.000</b>
<b>ARI</b>	5228	4	4293	4	4832	1	4162	2	<b>18515</b>	<b>11</b>	<b>0.059</b>
<b>MES</b>	2	0	0	0	12	0	3	0	<b>17</b>	<b>0</b>	<b>0.000</b>
<b>MEN</b>	3	0	0	0	0	0	0	0	<b>3</b>	<b>0</b>	<b>0.000</b>
<b>JAU</b>	4	0	5	0	3	0	6	0	<b>18</b>	<b>0</b>	<b>0.000</b>
<b>TET</b>	0	0	0	0	0	0	0	0	<b>0</b>	<b>0</b>	<b>0.000</b>
<b>AHF</b>	0	0	0	0	0	0	0	0	<b>0</b>	<b>0</b>	<b>0.000</b>
<b>FUO</b>	1249	0	907	0	1079	0	903	0	<b>4138</b>	<b>0</b>	<b>0.000</b>
<b>INJ</b>	259	0	91	0	199	0	40	0	<b>589</b>	<b>0</b>	<b>0.000</b>
<b>OTH</b>	8099	4	6320	4	7225	3	6304	4	<b>27948</b>	<b>15</b>	<b>0.054</b>
<b>TOTAL</b>	<b>19356</b>	<b>9</b>	<b>15386</b>	<b>10</b>	<b>17788</b>	<b>5</b>	<b>15157</b>	<b>7</b>	<b>67687</b>	<b>31</b>	
<b>RU</b>	<b>315</b>		<b>296</b>		<b>304</b>		<b>252</b>				

There was a 2% decrease in the number of AWD cases from 12,059 to 11,841 from week 27 to 28, and ARI also decreased from 16,448 to 16,165 from week 27 to 28. The weekly proportion of ARI and AWD is shown in figure 4.

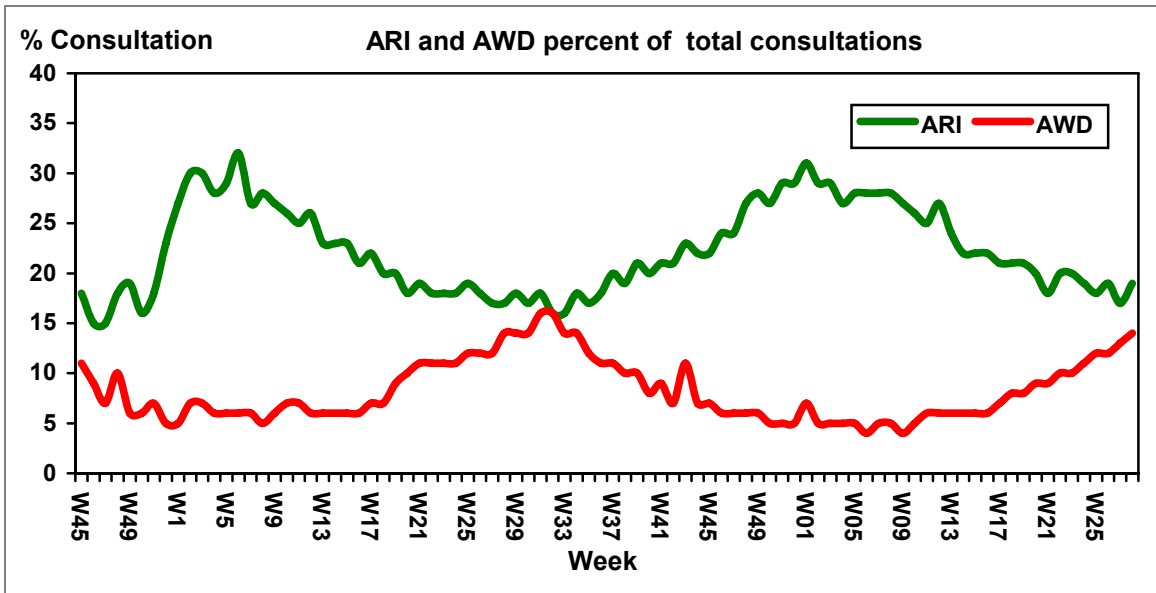


Figure 4. Weekly trend of percent of consultations for ARI and AWD, Earthquake Affected Areas, Pakistan, 15 October 2005 – 13 July 2007.

**Acute Watery Diarrhoea**

During week 28, there were 11,841 cases of AWD reported which was 2% lower than week 27. There were two deaths in patients less than five years of age reported from Mansehra district. The percentage of AWD in 2007 is very similar to that of 2006, though the rate is currently marginally lower in week 28, 2007 than same week last year. See figure 5.

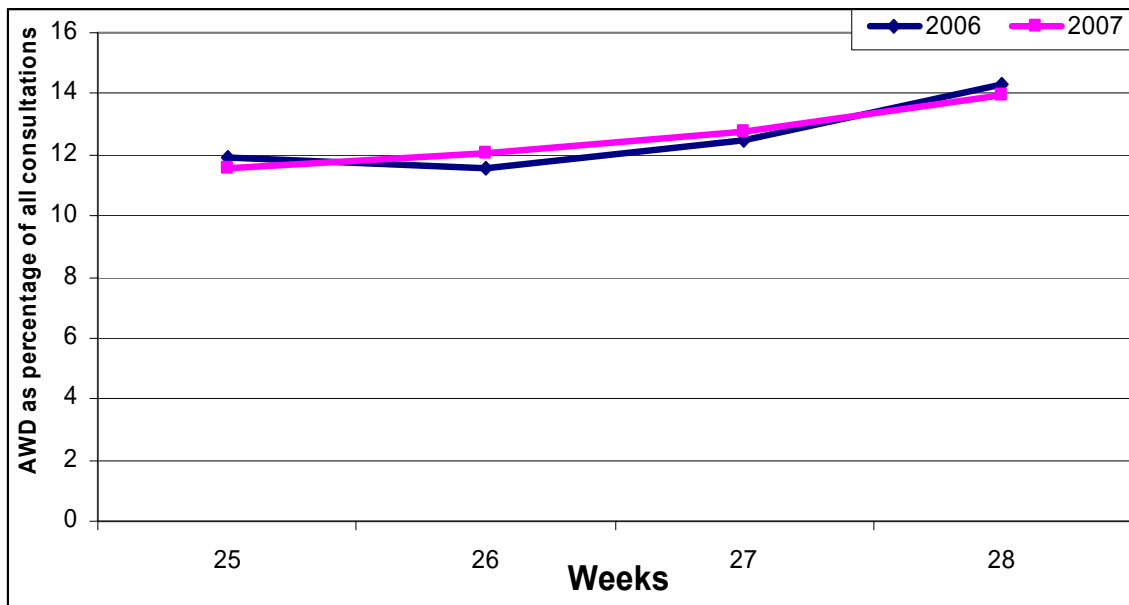


Figure 5: Trend in AWD as a percent of all consultations, 2006 and 2007, Earthquake Affected Areas, Pakistan, 17 June - 14 July 2006 to 16 June - 13 July 2007

**Bloody Diarrhoea**

During week 28, there were 390 cases of bloody diarrhoea reported, which is 61% lower than week 27. There were no associated deaths reported from any district. The percentage of BD in 2007 has been lower than that seen in 2006 for the last four weeks. See figure 6.

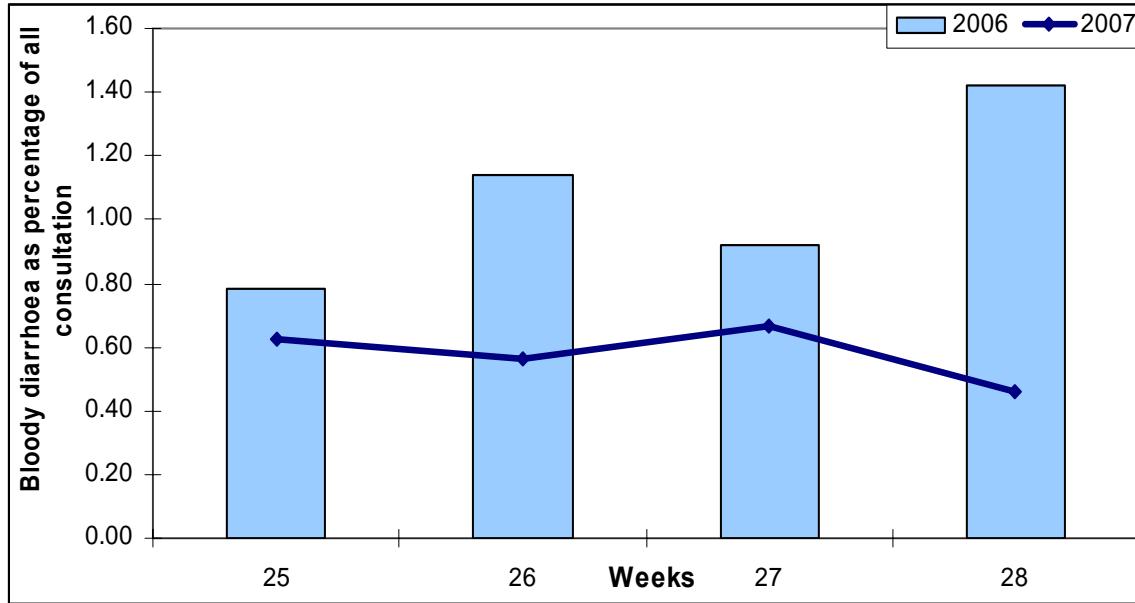
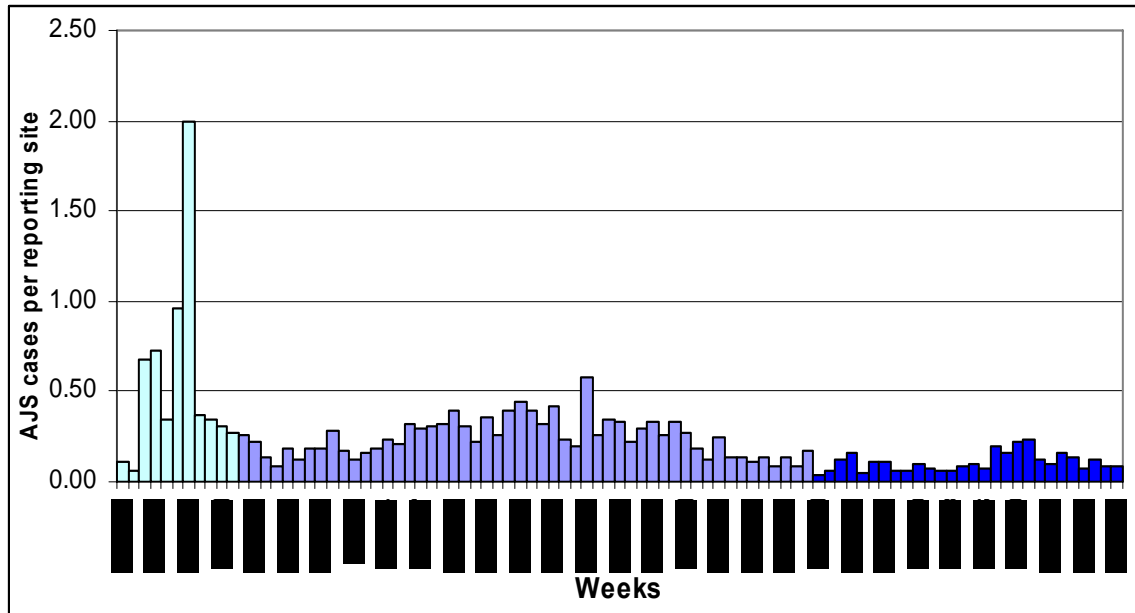


Figure 6: Trend in bloody diarrhoea as percentage of all consultations, 2006 and 2007, Earthquake Affected Areas, Pakistan, 17 June - 14 July 2006 to 16 June - 13 July 2007

**Acute Jaundice Syndrome**

In week 28, there were 23 cases of suspected hepatitis reported. There were no associated deaths reported from any district. The rate of suspected hepatitis remains lower in 2007 than for most weeks of 2006. See figure 7.



**Malaria**

In week 28, there were 563 suspected cases of malaria reported, 24% lower than week 27, out of which 482 suspected cases were in patients over five years of age and 81 in patients less than five years of age. There were no associated deaths reported. The percentage of malaria cases in both age groups started increasing in week 11 of 2007, but has not yet reached the highest rates seen in 2006. See figure 8.

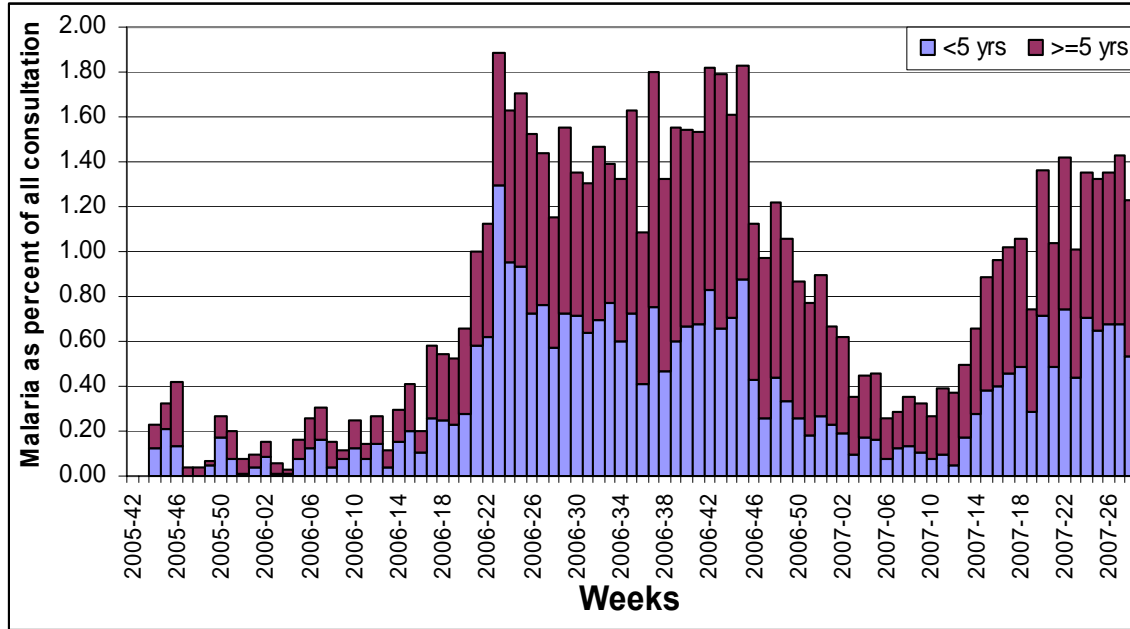


Figure 8: Trend in malaria as a percent of all consultations within age group, Earthquake Affected Areas, Pakistan, 15 Oct 2005 – 13 June 2007

**Measles**

There were 8 suspected cases of measles reported in week 28. There were no associated deaths reported. Though there has been a significant increase in measles cases in recent weeks, it is still well below the rate seen in the same weeks of 2006. See Figure 9.

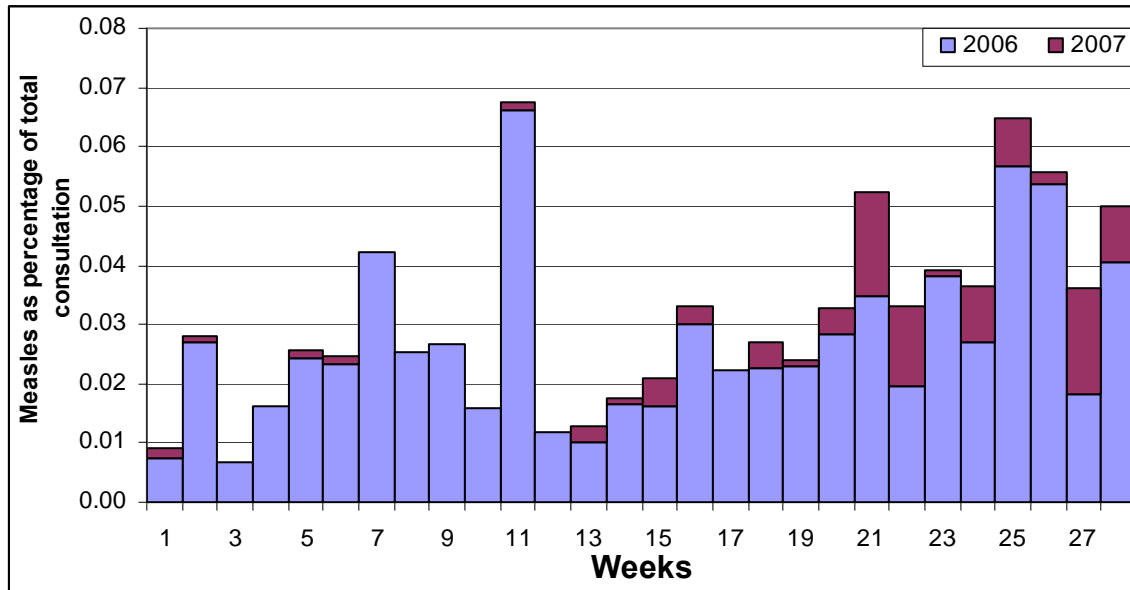


Figure 9: Trend in measles cases as a percent of all consultations, Earthquake Affected Areas, Pakistan, 31 Dec - 14 July 2006 to 30 Dec - 13 July, 2007

**Acute Respiratory Infection**

In week 28, there were 16,165 consultations for ARI reported through the DEWS system. There were two deaths in patients under five years of age reported from Mansehra district. Rates of ARI have remained very similar in the same weeks of 2006 and 2007. See Figure 10.

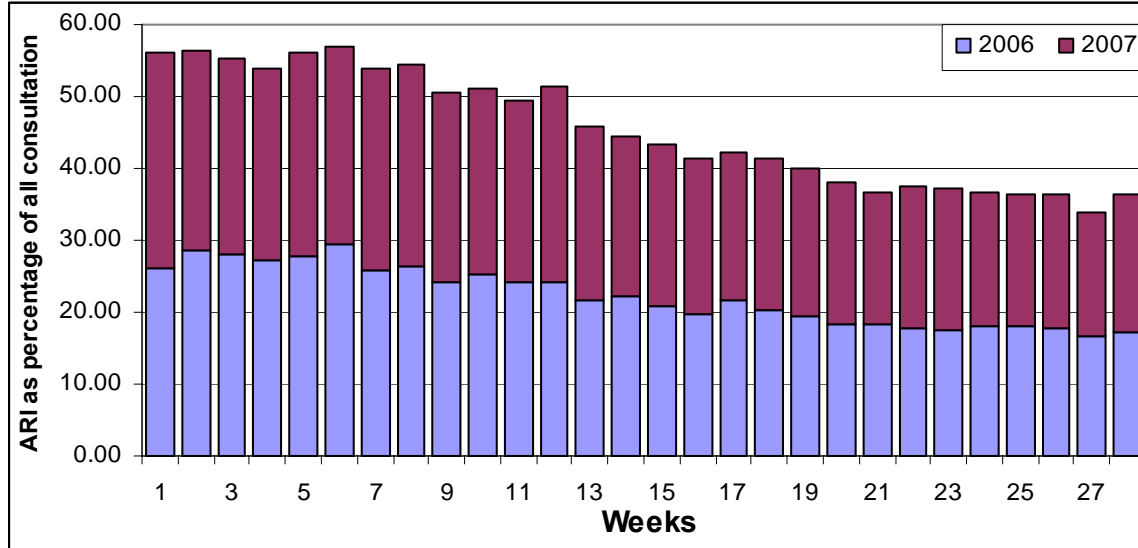


Figure 10: ARI as a percent of all consultations, by district, Earthquake Affected Areas, Pakistan, 31 Dec 05 – 14 July 2006 to 30 Dec - 13 July 2007

**Other Reportable Diseases and Conditions**

There was one case of suspected meningitis reported from Muzaffarabad district in week 28. There were 5,851 cases of Fever of Unknown Origin (FUO) and 295 cases of injuries in week 28. There were no cases of tetanus, and also there were no cases of acute hemorrhagic fever reported from any district. See figure 11.

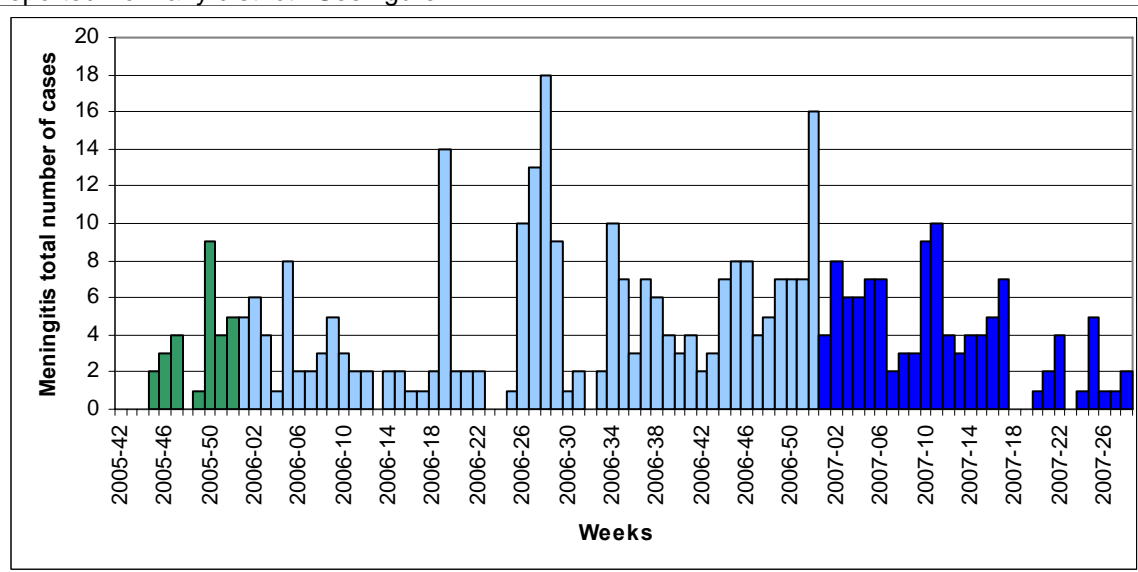


Figure 11: Total number of meningitis consultations, Earthquake Affected Areas, Pakistan, 15 Oct 2005 - 13 July 2007

## Outbreak Alert and Response<sup>1</sup>

### Acute watery diarrhoea

#### Bagh

On 8<sup>th</sup> of July 2007, DHQ Bagh reported one suspected case of acute watery diarrhoea from village Chaprian, Tehsil Dhirkot. The patient was a 60 year old male, resident of village Chaprian. He experienced a sudden onset of AWD resulting in severe dehydration and shock one night prior to admission. There was no history of travel. A stool sample was taken and sent to NIH Islamabad for laboratory confirmation. There were no further cases in the family or surrounding community. Hygiene promotion was carried out in the family and people were educated about safe drinking water, washing hands before taking meals and after using the toilet, washing fruits and vegetables before consumption and not to consume rotten fruits and vegetables.

### Acute jaundice syndrome

#### Muzaffarabad

BHU Panjgran, Khallana, Dachor miran and RHC Danna, each reported a single case while 2 cases were reported from BHU Chahlia and 2 cases from DHQ Athmuqam. The distribution is sporadic hence no cluster.

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<sup>1</sup> Outbreak Investigation and response of Suspected Viral Hepatitis, Malaria, and Bloody Diarrhoea and Watery Diarrhoea would only take place when a cluster of cases is identified or there is an increase in the incidence of the disease.  
(Note: Single death due to Diarrhoea and single case of reported severe dehydration among >5 years would be investigated)

**Number of reported cases and deaths per District, AJK**Table 6. Number of reported cases and deaths, **Bagh District\***, Earthquake Affected Areas, Pakistan, 16 June -13 July 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
25	1174	1	36	0	0	0	92	0	2317	0	0	0	0	0	2	0	0	0	0	0	319	0	3	0	11028	5
26	882	0	30	0	0	0	75	0	2151	1	0	0	0	0	4	0	0	0	0	0	268	0	0	0	9098	4
27	1308	1	31	0	1	0	75	0	2137	0	2	0	0	0	3	0	0	0	0	0	259	0	0	0	11355	3
28	1220	0	38	0	0	0	0	0	2160	0	0	0	0	0	1	0	0	0	0	0	277	0	0	0	10471	4
<b>Total</b>	<b>4584</b>	<b>2</b>	<b>135</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>242</b>	<b>0</b>	<b>8765</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1123</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>41952</b>	<b>16</b>

Table 7. Number of reported cases and deaths, **Poonch District\***, Earthquake Affected Areas, Pakistan, 16 June -13 July 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
25	1933	0	65	0	0	0	380	0	3196	0	7	0	3	0	4	0	0	0	0	0	1772	0	130	0	8335	2
26	2075	0	51	0	0	0	360	0	3750	0	2	0	0	0	1	0	0	0	0	0	1834	0	33	0	7136	0
27	2355	0	60	0	0	0	363	0	3055	0	7	0	0	0	1	0	0	0	0	0	2399	0	106	0	7281	5
28	3086	0	43	0	0	0	336	0	3540	0	7	0	0	0	2	0	0	0	0	0	2140	0	0	0	7778	0
<b>Total</b>	<b>9449</b>	<b>0</b>	<b>219</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1439</b>	<b>0</b>	<b>13541</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8145</b>	<b>0</b>	<b>269</b>	<b>0</b>	<b>30530</b>	<b>7</b>

Table 8. Number of reported cases and deaths, **Muzaffarabad District\***, Earthquake Affected Areas, Pakistan, 16 June -13 July 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
25	5194	0	356	0	0	0	135	0	7138	1	0	0	1	0	1	0	0	0	0	0	2311	0	1218	0	19469	4
26	4022	0	237	0	0	0	70	0	5356	0	0	0	1	0	0	0	0	0	0	0	1562	0	577	0	14100	0
27	5308	0	417	0	0	0	189	0	6734	0	0	0	1	0	0	0	0	0	0	0	2233	0	1023	0	18895	3
28	5023	0	258	0	0	0	128	0	6599	0	0	0	1	1	8	0	0	0	0	0	2222	0	295	1	17204	0
<b>Total</b>	<b>19547</b>	<b>0</b>	<b>1268</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>522</b>	<b>0</b>	<b>25827</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8328</b>	<b>0</b>	<b>3113</b>	<b>1</b>	<b>69668</b>	<b>7</b>

**Number of reported cases and deaths per District, NWFP**Table 9. Number of reported cases and deaths, **Battagram District\***, Earthquake Affected Areas, Pakistan, 16 June -13 July 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
25	1046	0	109	0	0	0	18	0	1350	0	0	0	0	0	12	0	0	0	0	0	454	0	36	0	3922	1
26	1190	0	136	0	0	0	54	0	1145	0	0	0	0	0	24	0	0	0	0	0	541	0	11	0	4306	2
27	1103	0	100	0	0	0	37	0	1260	0	8	0	0	0	17	0	0	0	0	0	478	0	0	0	4622	1
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>3339</b>	<b>0</b>	<b>345</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>109</b>	<b>0</b>	<b>3755</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>53</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1473</b>	<b>0</b>	<b>47</b>	<b>0</b>	<b>12850</b>	<b>4</b>

Table 10. Number of reported cases and deaths, **Mansehra District\***, Earthquake Affected Areas, Pakistan, 16 June -13 July 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
25	2005	0	47	0	2	0	29	0	3775	3	1	0	1	0	4	0	0	0	0	0	1774	0	255	0	16782	3
26	2095	1	27	0	0	0	15	0	3452	1	0	0	0	0	9	0	0	0	0	0	1908	0	0	0	16659	3
27	1985	0	20	0	0	0	35	0	3262	1	0	0	0	0	5	0	0	0	0	0	1245	0	0	0	14496	3
28	2512	1	51	0	0	0	31	0	3866	2	1	0	0	0	12	0	0	0	0	0	1212	0	0	0	14339	4
<b>Total</b>	<b>8597</b>	<b>2</b>	<b>145</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>110</b>	<b>0</b>	<b>14355</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6139</b>	<b>0</b>	<b>255</b>	<b>0</b>	<b>62276</b>	<b>13</b>